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STIC Database Tracking Number: 307398

To: MATTHEW SUCH
Location: JEF-6B85
Art Unit: 2891
Wednesday, September 09, 2009

Case Serial Number: 10/589800

From: JEFFREY HARRISON
Location: EIC2800
JEF-4B71
Phone: (571)272-2511

jeff.harrison@uspto.gov

Search Notes

Re: TFT using crystalline perfluorotetracene or perfluoropentacene, before 2/18/2004

Attached are the search histories and the edited search results from searching EAST databases, CAS/STN nonpatent literature and Chemical Abstracts database, www.Google.com , and www.scirus.com .

I found publications in the right ballpark but probably did not find the ideal document that you desired.

I recommend that you browse the search results starting on Page 2 of this file.

The search histories are included at the end of this file.

If you would like more searching on this case, or if you have questions or comments, please notify me.

Re: Poster Session Paper K10.52 at the 2003 Materials Research Society Fall Meeting

The title of the Poster Paper, "Perfluorinated Oligothiophenes and Pentacene as n-Type Semiconductors for Organic Field-Effect Transistors" was publicly available on the Internet on or before December 6, 2003, according to the date stamp on the archived file at the Wayback Machine, web.archive.org :

K10.52

Perfluorinated Oligothiophenes and Pentacene as n-Type Semiconductors for Organic Field-Effect Transistors.

Toshiyasu Suzuki[1], Sakamoto Youichi[1], Youji Inoue[2] and Shizuo Tokito[2]; [1]Institute for Molecular Science, Okazaki, Japan; [2]NHK Science and Technical Research Laboratories, Tokyo, Japan.

The poster session took place on December 4, 2003:

SESSION K10: Poster Session: Devices and Structures
Chairs: Vladimir Bulovic and Michael McGehee
Thursday Evening, December 4, 2003
8:00 PM
Exhibition Hall D (Hynes)

The abstract, below, for poster paper K10.52 is taken from the 10/589,800 eDAN file. A search found nothing on the MRS web pages indicating that the abstract was available in 2003, except through attendees and others associated with the meeting.

0.52
Perfluorinated Oligothiophenes and Pentacene as n-Type Semiconductors for Organic Field-Effect Transistors.
Toshiyasu Suzuki[1], Sakamoto Youichi[1], Youji Inoue[2] and Shizuo Tokito[2]; [1]Institute for Molecular Science, Okazaki, Japan; [2]NHK Science and Technical Research Laboratories, Tokyo, Japan.

Organic semiconductors have attained much attention because of the recent progress of organic light-emitting diodes (OLEDs) and field-effect transistors (OFETs). We reported that perfluorinated oligo(p-phenylene)s, such as perfluoro-p-sexiphenyl (C36F26), were efficient n-type semiconductors for the electron-transport layer of OLEDs [1] Molecular design of organic semiconductors for FETs should be different from that for OLEDs. A FET requires planar and crystalline materials for high carrier mobility. On the other hand, an OLED prefers non-planar and amorphous materials. We designed perfluorinated oligothiophenes and pentacene as potential n-type semiconductors for OFETs because of the following reasons: (1) These perfluorinated molecules are expected to be planar. (2) Oligothiophenes and pentacene are excellent p-type semiconductors with high hole mobility. (3) Perfluorination is an effective way to convert a p-type organic semiconductor to n-type one. We report herein the syntheses and properties of perfluorinated oligothiophenes up to the octamer and perfluorinated pentacene (C22F14). OFETs with these new n-type semiconductors will be also presented. [1] (a) Heidenhain, S. B.; Sakamoto, Y.; Suzuki, T.; Miura, A.; Fujikawa, H.; Mori, T.; Tokito, S.; Taga, Y. J. Am. Chem. Soc. 2000, 122, 10240-10241. (b) Sakamoto, Y.; Suzuki, T.; Miura, A.; Fujikawa, H.; ito, S.; Taga, Y. J. Am. Chem. Soc. 2000, 122, 1832-1833.

L36 ANSWER 2 OF 5 HCAPLUS COPYRIGHT ACS on STN
AN 2005:409443 HCAPLUS <<LOGINID::20090908>>
DN 142:463466
TI Process for the preparation of fluorinated pentacene derivatives
IN Kobayashi, Masafumi; Omae, Osamu; Ohkubo, Kimitaka; Gao, Yuan
PA Kanto Denka Kogyo Co., Ltd., Japan

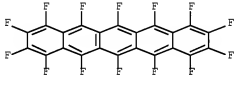
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PUB	WO 2005042445	A2	20050512	WO 2004-JP16248	20041102 <--
	WO 2005042445	A3	20050714		
	KR 2006117315	A	20061116	KR 2006-708166	20060427 <--
	US 20070083067	A1	20070412	**US 2006-578259**	**20060504** <--
	US 7439407	B2	20081021		
PRAP	**JP 2003-373970**	**A**	**20031104**	<--	
	WO 2004-JP16248	W	20041102		

OS MARPAT 142:463466

AB A process for the preparation of title compds. of formula I [wherein X1-X14 = F, H, (un)substituted alkyl, Ph, naphthyl, anthracenyl, naphthacenyl or pentacenyl; or X2X3 = cyclic ring; X9X10 = cyclic ring] via reaction of a compound of formula II with a compound of formula III is disclosed. For example, reaction of II (X1-X4 = F) with III (X8-X11 = F) gave 1,2,3,4,8,9,10,11-octafluoro-5,7,12,14-tetrahydroxypentacene-6,13-dione (IV) in 85% yield. Fluorination of IV with sulfur tetrafluoride gave 1,2,3,4,5,5,6,6,7,7,8,9,10,11,12,12,13,13,14,14-eicosafluoro- 5,6,7,12,13,14-hexahydro-pentacene (V) in 40%. Defluorination of V with zinc provided the title compound I (X1-X14 = F) in 65% yield.

[From EAST DERWENT DWPI database]: **USE - Used as manufacture raw material of organic electronics material**, polymeric functional material, pharmaceutical and agrochemical.

IT **646533-88-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of fluorinated pentacene derivs. via reaction of 1,4-anthracenediones with 1,3-isobenzofurandiones)
RN 646533-88-2 HCAPLUS
CN Pentacene, 1,2,3,4,5,6,7,8,9,10,11,12,13,14-tetradecafluoro- (CA INDEX NAME)



US-PAT-NO: 6225382
DOCUMENT-IDENTIFIER: US 6225382 B1
TITLE: Fluorine-containing resin composition
DATE-ISSUED: May 1, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Matsukura; Ikuo	Yokohama	N/A	N/A	JP
Yokotsuka; Shunsuke	Yokohama	N/A	N/A	JP
Suzuki; Katsumi	Yokohama	N/A	N/A	JP

US 6225382 Brief Summary Text - BSTX (29):

The fluorine-containing condensed polycyclic compound is preferably a fluorine-containing condensed polycyclic hydrocarbon composed of three or four carbon rings, such as perfluorofluorene, perfluorophenalene, perfluorophenanthrene, perfluoroanthracene, perfluorotriphenylene, perfluoropyrene, perfluorochrysene or **perfluoronaphthacene** . . . .

[From EAST Derwent DWPI database] : **USE** - In UV-shielding films and laser-abraded **micro-patterns in semiconductor processing**, in protective **films for electronic parts**, water-repellent films for ink jet heads and water- and oil-proof coatings for filters. ADVANTAGE - The composition has improved processability without adverse effects on other physical properties. Transmission in the visible was good, showing that there was no phase separation and there was excellent UV absorption.

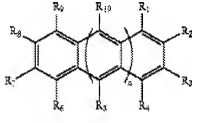
DERWENT-ACC-NO: 2003-248387

TITLE: Organic semiconductor solution contains polyacene compound and solvent with part which can dissolve polyacene compound selected from aromatic and aliphatic halogenated hydrocarbon, aromatic hydrocarbon, lactone and/or carbonate
INVENTOR: MINAKATA T; TAKASHI M
PATENT-ASSIGNEE: ASAHI CHEM IND CO LTD[ASAH] , ASAHI KASEI KK[ASAH], ASAHI KASEI KOGYO

PRIORITY-DATA: 2001JP-242808 (August 9, 2001)
PATENT-FAMILY:

PUB-NO	**PUB-DATE**	**LANGUAGE**
WO 03016599 A1	**February 27, 2003**	**JA**
EP 1416069 A1	May 6, 2004	EN
KR 2004029402 A	April 6, 2004	KO
AU 2002327354 A1	**March 3, 2003**	**EN**
JP 2003520882 X	December 2, 2004	JA
CN 1541288 A	October 27, 2004	ZH
US 20050258417 A1	November 24, 2005	EN
US 7061010 B2	June 13, 2006	EN
KR 552866 B1	February 20, 2006	KO
CN 100334263 C	August 29, 2007	ZH
JP 4219807 B2	February 4, 2009	JA

. . . .
USE - **Used in** the production of organic semiconductor film for semiconductor elements and **transistors for use in display devices**. The films can be used in electronics, photonics and bioelectronics etc.
. . . .
US 7061010, Brief Summary Text - BSTX (5):
Organic semiconductor materials thus far studied include polyphenylenevinylene, polypyrrole, polythiophene, oligothiophene, as well as polyacenes such as anthracene, tetracene and pentacene. **It has been reported that polyacenes, in particular, have high crystallinity** due to their strong intermolecular cohesive force, resulting in high carrier mobility and resultant superior semiconductor device characteristics.
US 7061010, Claim 1:
1. A solution for organic semiconductors comprising a polyacene and a solvent at least comprising a polvacene dissolving solvent capable of dissolving said polyacene, wherein said polyacene dissolving solvent is at least one compound selected from the group consisting of halogenated aromatic hydrocarbons, halogenated aliphatic hydrocarbons, aromatic hydrocarbons, lactones and carbonates, wherein said polyacene is represented by the chemical formula (1):



wherein **at least one of the functional groups from R.sub.1 to R.sub.10 comprises** one or more of groups selected from the group consisting of aliphatic hydrocarbons such as alkyls, alkenyls and alkynyls, alkoxyls, **halogens**, acyls, esters, ethers, aminos, amides, cyanos, silyls and photoreactive groups, and the others of said functional groups are hydrogen atoms; and n represents an integer of from 2 to 7.

PGPUB-DOCUMENT-NUMBER: **20050130422**
DOCUMENT-IDENTIFIER: **US 20050130422 A1**

TITLE: Method for patterning films

PUBLICATION-DATE: June 16, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Theiss, Steven D.	Woodbury	MN	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
3M Innovative Properties Company				02

APPL-NO: **10/734684**
DATE FILED: **December 12, 2003**

Detail Description Paragraph - DETX (10):

[0023] The semiconductor layer of **TFTs** can also be patterned from a film using the process of the invention. The semiconductor layer can comprise organic or inorganic semiconductor materials. Useful inorganic semiconductor materials include amorphous and poly silicon, tellurium, zinc oxide, zinc selenide, zinc sulfide, cadmium sulfide, and cadmium selenide (preferably, amorphous or poly silicon or zinc oxide). **Useful organic semiconductor materials include acenes and substituted derivatives thereof. Particular examples of acenes include** anthracene, naphthalene, tetracene, pentacene, and substituted pentacenes (preferably pentacene or substituted pentacenes, including **fluorinated pentacenes**). Other examples include semiconducting polymers, perylenes, fullerenes, phthalocyanines, oligothiophenes, polythiophenes, polyphenylvinylenes, polyacetylenes, metallophthalocyanines and substituted derivatives. Useful bis-(2-acenyl) acetylene semiconductor materials are described in copending application U.S. Ser. No. 10/620027, filed on Jul. 15, 2003.

US-PAT-NO: 7078937

DOCUMENT-IDENTIFIER: US 7078937 B2

TITLE: Logic circuitry powered by partially rectified ac waveform

DATE-ISSUED: July 18, 2006

PRIOR-PUBLICATION-INFORMATION:

DOCUMENT-IDENTIFIER	DOCUMENT-DATE
US 20050134318 A1	June 23, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Baude; Paul F.	Maplewood	MN	N/A	US
Haase; Michael A.	St. Paul	MN	N/A	US
Theiss; Steven D.	Woodbury	MN	N/A	US

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
3M Innovative Properties Company	St. Paul	MN	N/A	US	02

APPL-NO: 10/738082

DATE FILED: December 17, 2003

Description Paragraph - DETX (22):

Useful organic semiconductor materials for forming OTFTs include acenes and substituted derivatives thereof. Particular examples of acenes include anthracene, naphthalene, tetracene, pentacene, and substituted pentacenes (preferably pentacene or substituted pentacenes, including **fluorinated pentacenes**). Other examples include semiconducting polymers, perylenes, fullerenes, phthalocyanines, oligothiophenes, polythiophenes, polyphenylvinylenes, polyacetylenes, metallophthalocyanines and substituted derivatives. Useful bis-(2-acenyl) acetylene semiconductor materials are described in copending application U.S. Ser. No. 10/620,027, filed on Jul. 15, 2003, which is herein incorporated by reference. Useful acene-thiophene semiconductor materials are described in copending application U.S. Ser. No. 10/641,730, filed on Aug. 15, 2003, which is herein incorporated by reference. Useful inorganic semiconductor materials for forming thin film transistors include amorphous silicon, polysilicon, tellurium, zinc oxide, zinc selenide, zinc sulfide, cadmium sulfide, and cadmium selenide.

US-PAT-NO: 7245151

DOCUMENT-IDENTIFIER: US 7245151 B2

TITLE: Logic circuitry powered by partially rectified AC waveform

DATE-ISSUED: July 17, 2007

PRIOR-PUBLICATION-INFORMATION:

DOCUMENT-IDENTIFIER	DOCUMENT-DATE
US 20070070661 A1	March 29, 2007

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Baude; Paul F.	Maplewood	MN	N/A	US
Haase; Michael A.	St. Paul	MN	N/A	US
Theiss; Steven D.	Woodbury	MN	N/A	US

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
3M Innovative Properties Company	St. Paul	MN	N/A	US	02

APPL-NO: 11/424450

DATE FILED: June 15, 2006

CONTINUITY DATA:
division parent-doc US 10738082 00 20031217 US 7078937 A child-doc US 11424450

Description Paragraph - DETX (22):

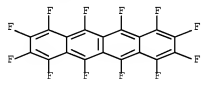
Useful organic semiconductor materials for forming OTFTs include acenes and substituted derivatives thereof. Particular examples of acenes include anthracene, naphthalene, tetracene, pentacene, and substituted pentacenes (preferably pentacene or substituted pentacenes, including **fluorinated pentacenes**). Other examples include semiconducting polymers, perylenes, fullerenes, phthalocyanines, oligothiophenes, polythiophenes, polyphenylvinylenes, polyacetylenes, metallophthalocyanines and substituted derivatives. Useful bis-(2-acenyl) acetylene semiconductor materials are described in copending application U.S. Ser. No. 10/620027, filed on Jul. 15, 2003, which is herein incorporated by reference. Useful acene-thiophene semiconductor materials are described in copending application U.S. Ser. No. 10/641730, filed on Aug. 15, 2003, which is herein incorporated by reference. Useful inorganic semiconductor materials for forming thin film transistors include amorphous silicon, polysilicon, tellurium, zinc oxide, zinc selenide, zinc sulfide, cadmium sulfide, and cadmium selenide.

L36 ANSWER 5 OF 5 HCAPLUS COPYRIGHT ACS on STN
AN 2003:898555 HCAPLUS <<LOGINID::20090908>>
DN 140:118999
ED **Entered STN: 18 Nov 2003**
TI Electron-phonon interactions in the monoanions of fluoroacenes
AU Kato, Takashi; Yamabe, Tokio
SO Journal of Chemical Physics (**2003**), 119(21), 11318-11328
CODEN: JCPSA6; ISSN: 0021-9606
PB American Institute of Physics
Full PDF:
http://scitation.aip.org/getpdf/servlet/GetPDFServlet?filetype=pdf&id=JCPSA6000119000021011318000001&idtype=cvips&prog=normal

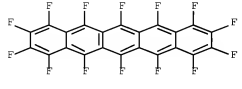
AB Electron-phonon interactions in the monoanions of fluoroacenes such as C6F6 (1f), C10F8 (2f), C14F10 (3f), **C18F12** (4f), and **C22F14** (5f) are studied, and compared with those in the monoanions of acenes and deutero-acenes. The C-C stretching modes around 1500 cm-1 the most strongly couple to the lowest unoccupied MOs (LUMO) in fluoroacenes. The estimated total electron-phonon coupling consts. (lLUMO) are 0.475, 0.473, 0.350, 0.273, and 0.215 eV for 1f, 2f, 3f, 4f, and 5f, resp. The lLUMO values for fluoroacenes are much larger than those for acenes and deutero-acenes. Possible superconducting transition temps. (Tcs) for the monoanions of deutero-acenes and fluoroacenes are larger than those for the monoanions of acenes. The transition temperature (Tc) value increases much more significantly by H-F substitution than by H-D substitution in acenes. The lLUMO and Tc values significantly decrease with an increase in mol. size from the monoanions of 1f to 5f. The logarithmically averaged phonon frequencies (ωln) do not significantly change with an increase in mol. size in the monoanions of fluoroacenes. The larger displacements of C atoms in the vibronic active modes in fluoroacenes than those in deutero-acenes due to larger atomic mass of F than that of D, and the unchanged properties of the orbital patterns of the LUMO as a consequence of H-F and H-D substitution in acenes, are the main reasons why the lLUMO value increases much more significantly by H-F substitution than by H-D substitution, and the reason why the Tc value increases much more significantly by H-F substitution than by H-D substitution in acenes. The detailed properties of vibronic active modes and the electronic structures in the LUMO as well as the mol. wts. are closely related to the lLUMO, ωln, and Tc values in the monoanions of fluoroacenes, deuteroacenes, and acenes.

IT Bond length (carbon-carbon; of acenes and fluoroacenes)
IT Molecular orbital (frontier; of fluoroacene and deuteroacene monoanions)
IT Electron-phonon interaction (in fluoroacene and deuteroacene monoanions)
IT Superconducting critical temperature (of fluoroacene and deuteroacene monoanions)
IT **646533-87-1 646533-88-2**
RL: PRP (Properties)
(carbon-carbon bond lengths in)

RN 646533-87-1 HCAPLUS
CN Naphthacene, 1,2,3,4,5,6,7,8,9,10,11,12-dodecafluoro- (CA INDEX NAME)



RN 646533-88-2 HCAPLUS
CN Pentacene, 1,2,3,4,5,6,7,8,9,10,11,12,13,14-tetradecafluoro- (CA INDEX NAME)



DERWENT-ACC-NO: 2004-313745
COPYRIGHT DERWENT INFORMATION LTD

TITLE: Light-emitting element, e.g. organic electroluminescent device comprises organic layer containing compound(s) comprising carbon, fluorine or silicon

INVENTOR: ISE T
PATENT-ASSIGNEE: FUJI FILM CORP[FUJF] , FUJI PHOTO FILM CO LTD[FUJF]
PRIORITY-DATA: 2002JP-241662 (August 22, 2002) , 2003US-644872 (August 21, 2003)
PATENT-FAMILY:

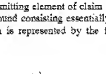
PUB-NO	PUB-DATE	LANGUAGE
US 20040043250 A1	March 4, 2004	EN
JP 2004103577 A	April 2, 2004	JA
US 6905787 B2	June 14, 2005	EN
JP 4272954 B2	June 3, 2009	JA

ABSTRACTED-PUB-NO: US 20040043250 A1
NOVELTY - A light-emitting element comprises organic layer(s) having a light emitting layer, and which is disposed between two electrodes. At least one layer of the organic layer contains compound(s) comprising carbon, fluorine or silicon.
USE - As light-emitting element, e.g. organic EL element.
ADVANTAGE - The inventive light-emitting element has high luminance and luminous efficiency, and also has superior endurance.
EQUIVALENT-ABSTRACTS:
ORGANIC CHEMISTRY
Preferred Component: The compound contains hydrogen of not more than 2 ydrogen per six carbon. It is a compound of formula (I) or (II).
Ar1 = aryl group comprising C or F, preferably groups from perfluorophenyl, perfluorobiphenyl, perfluoronaphthyl, perfluoroanthracenyl, perfluorophenanthryl, perfluoropyrenyl, **perfluoronaphthacenyl** or perfluoroperylenyl;
L = divalent arylene group of C or F.
Preferred Composition: The compound, which is used as an electron transporting material, is 60-100 mass%. The compound, which is used as a host material, is 50-99.9 mass%.
Preferred Method: **The organic layer is formed by a resistance heating vapor deposition method,** a coating method or a transferring method. The light emitting layer is formed by a coating method.
Preferred Property: The compound has a glass transition temperature of 130-400degreesC. The compound has a minimum excited triplet energy of 65-95 kcal/mol.
INORGANIC CHEMISTRY
Preferred Component: The organic layer contains a phosphorescent material from a transition metal complex comprising iridium complex (preferred), a platinum complex, a rhenium complex or a ruthenium complex.

From US 6905787 Claims:

3. The light emitting element of claim **1**, wherein said at least one compound consisting essentially of carbon, fluorine and silicon is represented by the following general formula (I):

General Formula (I)



wherein in general formula (I), each of Ar^1, Ar^3, Ar^5 and Ar^6 represents an aryl group consisting of carbon and fluorine.

4. The light emitting element of claim **3**, wherein each of Ar^1, Ar^5, Ar^2 and Ar^4 in general formula (I) is selected from the group consisting of a perfluorophenyl group, a perfluorobiphenyl group, a perfluoronaphthyl group, a perfluoroanthracenyl group, a perfluorophenanthryl group, a perfluoropyrenyl group, a perfluoronaphthacenyl group and a perfluoroperylenyl group.

US-PAT-NO: 7560730

DOCUMENT-IDENTIFIER: US 7560730 B2

TITLE: Light emitting element having an organic layer including a light-emitting layer

DATE-ISSUED: July 14, 2009

PRIOR-PUBLICATION-INFORMATION:

DOCUMENT-IDENTIFIER	DOCUMENT-DATE
US 20060208222 A1	September 21, 2006

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ise; Toshihiro	Kanagawa	N/A	N/A	JP

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
FUJIFILM Corporation	Tokyo	N/A	N/A	JP	03

APPL-NO: 11/434174

DATE FILED: May 16, 2006

CONTINUITY DATA:
continuation parent-doc US 10644830 00 20030821 US 7189989 A child-doc US 11434174

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	2002-241663	August 22, 2002

Description Paragraph - DETX (15):
With respect to the group represented by R, examples thereof include an alkyl group in which all the hydrogen atoms are substantially substituted with fluorine atoms (having preferably, carbon atoms of 1 to 20, more preferably, carbon atoms of 1 to 10, and most preferably, carbon atoms of 1 to 6, and examples thereof include a trifluoromethyl group, a pentafluoroethyl group and a tridecafluorohexane); an aryl group in which all the hydrogen atoms are substantially substituted with fluorine atoms (having preferably, carbon atoms of 6 to 45, more preferably, carbon atoms of 6 to 35, and most preferably, carbon atoms of 1 to 25, and examples thereof include a perfluorophenyl group, a perfluorobiphenyl group, a **perfluoronaphthyl group**, a perfluoroanthracenyl group, a perfluorophenanthryl group, a perfluoroperylenyl group); and a heterocyclic group in which all the hydrogen atoms are substantially substituted with fluorine atoms (having preferably, carbon atoms of 4 to 40, more preferably, carbon atoms of 4 to 35, and most preferably, carbon atoms of 3 to 25, and examples thereof include a perfluoropyridinyl group, a perfluoroquinolyl group, a perfluoroacridinyl group and a perfluorothienyl group), among which an aryl group in which all the hydrogen atoms are substantially substituted with fluorine atoms is most preferable.

Description Paragraph - DETX (24):
In general formula (I), each of the above-mentioned Ar.sup.1, Ar.sup.2 and Ar.sup.3, is preferably a perfluorophenyl group, a perfluorobiphenyl group, a **perfluoronaphthyl group**, a perfluoroanthracenyl group, a perfluorophenanthryl group, a perfluoropyrenyl group, a perfluoronaphthacenyl group, a perfluoroperylenyl group or the like, among which a perfluorophenyl group, a perfluorobiphenyl group and a perfluoronaphthyl group are particularly preferable.

DERWENT-ACC-NO: 2004-303274
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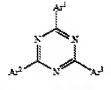
TITLE: Light emitting element comprises organic layer(s) that includes light emitting layer and is dispersed between pair of electrodes
INVENTOR: ISE T
PATENT-ASSIGNEE: FUJI FILM CORP[FUJF] , FUJI PHOTO FILM CO LTD[FUJF]
PRIORITY-DATA: 2002JP-241663 (August 22, 2002), 2003US-644830 (August 21, 2003)
PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
US 20040036077 A1	February 26, 2004	EN
JP 2004103576 A	April 2, 2004	JA
US 7189989 B2	March 13, 2007	EN
JP 4272953 B2	June 3, 2009	JA

ABSTRACTED-PUB-NO: US 20040036077 A1
NOVELTY - A light emitting element comprises organic layer(s) that includes light emitting layer and is dispersed between pair of electrodes. The organic layer(s) contains compound consisting of carbon, fluorine, or nitrogen.
USE - Used as organic electroluminescent element.
ADVANTAGE - The invention has high luminance and luminous efficiency, and has superior endurance.
EQUIVALENT-ABSTRACTS:
ORGANIC CHEMISTRY
Preferred Compounds: The compound is of formula X-(R)n, or formula (I).
X = aromatic ring or hetero cyclic ring that have atoms consisting of C, F, or N;
R = C and F, or C, F, and N;
n = at least 1;and
Ar1-Ar3 = aryl consisting of C and F.

When (X) contains no nitrogen, (R) contains nitrogen. **Ar1-Ar3 is consisting of** perfluorophenyl, perfluorobiphenyl, perfluoronaphthyl, perfluoroanthracenyl, perfluorophenanthryl, perfluoropyrenyl, **perfluoronaphthacenyl**, or perfluoroperylenyl.
Preferred Properties: The compound has glass transition temperature of 130-400 degrees C. It is used as electron transporting material.

US 7189989:



What is claimed is:

1. A light emitting element comprising at least one organic layer which includes a light emitting layer, and which is disposed between a pair of electrodes, wherein at least one layer of the at least one organic layer contains at least one compound consisting essentially of carbon, fluorine and nitrogen, and wherein the compound contains hydrogen atoms in an amount not greater than one hydrogen atom per six carbon atoms; wherein the compound is a compound represented by the following general formula (I):

wherein in general formula (I), each of Ar^1, Ar^2 and Ar^3 represents an aryl group consisting of carbon and fluorine.

2. The light emitting element of claim 1, wherein each of Ar^1, Ar^2 and Ar^3 in the general formula (I) is selected from the group consisting of a perfluorophenyl group, a perfluorobiphenyl group, a perfluoronaphthyl group, a perfluoroanthracenyl group, a perfluorophenanthryl group, a perfluoropyrenyl group, a perfluoronaphthacenyl group and a perfluoroperylenyl group.

Claims Text - CLTX (17):
17. The light emitting element of claim 12, wherein each of Ar.sup.1, Ar.sup.2 and Ar.sup.3 in the general formula (I) is selected from the group consisting of a perfluorophenyl group, a perfluorobiphenyl group, a perfluoronaphthyl group, a perfluoroanthracenyl group, a perfluorophenanthryl group, a perfluoropyrenyl group, a **perfluoronaphthacenyl group** and a perfluoroperylenyl group.

US-PAT-NO: 6166125

DOCUMENT-IDENTIFIER: US 6166125 A

TITLE: Graded-refractive-index optical plastic material and method for its production

DATE-ISSUED: December 26, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sugiyama; Norihide	Yokohama	N/A	N/A	JP
Murofushi; Hidenobu	Yokohama	N/A	N/A	JP
Okazoe; Takashi	Yokohama	N/A	N/A	JP
Tamura; Masayuki	Yokohama	N/A	N/A	JP
Tatematsu; Shin	Yokohama	N/A	N/A	JP
Irisawa; Jun	Yokohama	N/A	N/A	JP

Brief Summary Text - BSTX (38):

The fluorine-containing condensed polycyclic compound is preferably a fluorine-containing condensed polycyclic hydrocarbon composed of three or four carbon rings, such as perfluorofluorene, perfluorophenalene, perfluorophenanthrene, perfluoroanthracene, perfluorotriphenylene, perfluoropyrene, perfluorochrysene or **perfluoronaphthacene**, or a fluorine-containing condensed polycyclic compound of the following formula 13 or 14. ##STR4##

L36 ANSWER 1 OF 5 HCAPLUS COPYRIGHT ACS on STN
AN 2005:522068 HCAPLUS ___<<LOGINID::20090908>>
DN 143:43674
TI Preparation of 5,6,11,12-tetrafluoronaphthacenes from naphthalenes and phthalic anhydrides via 6,11-dihydroxynaphthacene-5,12-diones
IN Kobayashi, Masashi; Omae, Satoru; Koh, Won
PA Kanto Denka Kogyo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF

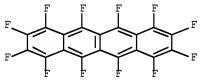
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PUB JP 2005154337	A	20050616	JP 2003-394966	20031126 <--
PRAP JP 2003-394966		20031126 <--		

AB 5,6,11,12-Tetrafluoronaphthacenes I [X1-X4, X7-X10 = F, H, C1-8 alkyl, etc.; X2X3 and/or X8X9 may form (poly)cyclic hydrocarbon] are prepared by treatment of naphthalenes II (X1-X4 = same as I; Y1, Y2 = C1-6 alkyl) with phthalic anhydrides III (X7-X10 = same as I) in the presence of Lewis acids, fluorination of the resulting 6,11-dihydroxynaphthacene-5,12-diones, and dehydrofluorination of the fluorinated products with reducing agents. Thus, II (X1 = X2 = X3 = X4 = F, Y1 = Y2 = Me) was treated with III (X7 = X8 = X9 = X10 = F) in the presence of AlCl3 at 200°, and fluorinated with HF and SF4 at 150° and 3.2 MPa to give 1,2,3,4,5,5,6,6,7,8,9,10,11,11,12,12- hexadecafluoro-5,6,11,12-tetrahydronaphthacene, which was treated with Zn at 230°-280° to give I (X1 = X2 = X3 = X4 = X7 = X8 = X9 = X10 = F).

IT Condensation reaction catalysts
Dehydrofluorination
Reducing agents
(preparation of tetrafluoronaphthacenes by condensation of naphthalenes with phthalic anhydrides in the presence of Lewis acid catalysts, fluorination, and dehydrofluorination with reducing agents)

IT **646533-87-1P**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of tetrafluoronaphthacenes by condensation of naphthalenes with phthalic anhydrides in the presence of Lewis acid catalysts, fluorination, and dehydrofluorination with reducing agents)

RN 646533-87-1 HCAPLUS
CN Naphthacene, 1,2,3,4,5,6,7,8,9,10,11,12-dodecafluoro- (CA INDEX NAME)



L37 ANSWER 1 OF 3 HCAPLUS COPYRIGHT ACS on STN
AN 2004:1068981 HCAPLUS <<LOGINID::20090908>>
DN 142:30358
ED Entered STN: 14 Dec 2004
TI **Perfluoropentacene thin film transistors**
AU Tokito, Shizuo; Inoue, Youji; Sakamoto, Youichi; Suzuki, Toshiyasu
CS Broadcasting Laboratory, NHK, Tokyo, Japan
SO Mirai Zairyo (**2004**), 4(11), 34-41
CODEN: MZIABA; ISSN: 1346-0986
PB Enu-Ti-Esu
DT Journal; General Review
Language: Japanese
AB **A review on the perfluoropentacene thin film transistors .**
IT **Thin film transistors**
(perfluoropentacene thin film transistor)

US-PAT-NO: 7058271

DOCUMENT-IDENTIFIER: US 7058271 B2

TITLE: Plastic optical fiber

DATE-ISSUED: June 6, 2006

PRIOR-PUBLICATION-INFORMATION:

DOCUMENT-IDENTIFIER	DOCUMENT-DATE
US 20050207714 A1	September 22, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Koike; Yasuhiro	Kanagawa	N/A	225-0024	JP
Ishigure; Takaaki	Kanagawa	N/A	N/A	JP
Murofushi; Hidenobu	Kanagawa	N/A	N/A	JP
Watanabe; Yuji	Kanagawa	N/A	N/A	JP
Onishi; Tsuyoshi	Kanagawa	N/A	N/A	JP

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Asahi Glass Company, Limited Koike; Yasuhiro	Tokyo Yokohama	N/A N/A	N/A N/A	JP JP	03 05

APPL-NO: 11/075441

DATE FILED: March 9, 2005

CONTINUITY DATA:
continuation parent-doc US PCT/JP03/11645 00 20030911 PENDING child-doc US 11075441

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	2002-266209	September 12, 2002

---------- KWIC ---------

Description Paragraph - DETX (107):

The fluorinated condensed polycyclic compound is preferably a fluorinated condensed polycyclic hydrocarbon constituted by 3 or 4 carbon rings, such as perfluorofluorene, perfluorophenarene, perfluorophenanthrene, perfluoroanthracene, perfluorotriphenylene, perfluoropyrene, perfluorochrysene or **perfluoronaphthacene**, or a fluorinated condensed polycyclic compound represented by the following formula 13 or 14.

US-PAT-NO: 6165383

DOCUMENT-IDENTIFIER: US 6165383 A

TITLE: Useful precursors for organic electroluminescent materials and devices made from such materials

DATE-ISSUED: December 26, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chou; Homer Z.	Schaumburg	IL	N/A	N/A

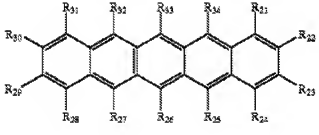
ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Organic Display Technology	Chicago	IL	N/A	N/A	02

From Column 11:

In another embodiment of Compound 1, the main-chain siloxane polymer includes the pentacene derivative shown as Compound 4 below.

Compound 4



Detailed Description Text - DETX (47):

. . . .

R.sub.21 - R.sub.34 are selected independently from the group consisting of hydrogen, alkyl, aryl, heteroalkyl, heteroaralkyl, nitro, cyano, hydroxy, alkoxy, aryloxy, thio, alkylthio, arylthio, amino, **halogen**, dialkylamino, diarylamino, diaralkylamino, arylamino, alkylamino, arylalkylamino, carbonyloxy, carbonylalkoxy, carbonylalkyloxy, alkylcarbonyloxy, arylcarbonyloxy, alkoxylcarbonyloxy, sulfonyl, sulfonyloxy, alkyl bonded to the adjacent silicon atom of the organo-siloxane polymer, aryl bonded to the adjacent silicon atom of the organo-siloxane polymer, or the adjacent silicon atom of said organo-siloxane polymer. The adjacent **silicon** atoms of the organo-siloxane polymer **must be attached directly to the anthracene ring structure and/or one or both of the substituents R.sub.21 -R.sub.34**, depending on the chemical compatibility of the substituent and the silicon atom, in any combination sufficient to couple Compound 4 to the main chain of the organo-siloxane polymer. Such compatibility will be recognized by those of skill in the synthetic organic chemical arts.

DERWENT-ACC-NO: 2004-553171
COPYRIGHT DERWENT INFORMATION LTD

TITLE: New electroluminescent compound, for use in liquid crystal devices and devices based on inorganic semiconductor systems, comprises organometallic complex with metal in valency state greater than three

INVENTOR: ANTIPAN-LARA J; GANESHAMURUGAN S ; GNANAMOLY P ; KATHIRGAMANATHAN P ; KUMARAVERL M ; PARAMASWARA G ; PARTHEEPAN A ; PRICE R ; SELVARANJAN S ; SURENDRAKUMAR S

PATENT-ASSIGNEE: ANTIPAN-LARA J[ANTII] , ELAM-T LTD[ELAMN], GANESHAMURUGAN S[GANEI], GNANAMOLY P[GNANI], KATHIRGAMANATHAN P[KATHI], KUMARAVERL M[KUMAI], OLED-T LTD[OLEDN], , PARTHEEPAN A[PARTI], PRICE R[PRICI]

PRIORITY-DATA: 2002GB-030072 (December 24, 2002)
PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
WO 2004058913 A1	July 15, 2004	EN
AU 2003294130 A1	July 22, 2004	EN
EP 1585797 A1	October 19, 2005	EN
US 20060072053 A1	April 6, 2006	EN
JP 2006512436 W	April 13, 2006	JA
EP 1585797 B1	August 27, 2008	EN
DE 60323265 E	October 9, 2008	DE

From US 20060072053:

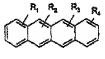


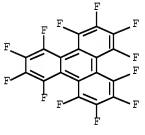
Fig. 11

Brief Summary Text - BSTX (26):

[0026] Other dopants include salts of bis benzene sulphonic acid such as and perylene and perylene derivatives and dopants of the formulae of **FIGS. 11** to 13 of the drawings where **R.sub.1, R.sub.2, R.sub.3 and R.sub.4 are R, R.sub.1, R.sub.2, R.sub.3 and R.sub.4 can be the same or different and are selected from** hydrogen, hydrocarbyl groups, substituted and unsubstituted aromatic, heterocyclic and polycyclic ring structures, fluorocarbons such as trifluorly methyl groups, **halogens such as fluorine** or thiophenyl groups; R, R.sub.1, R.sub.2, R.sub.3 and R.sub.4 can also form substituted and unsubstituted fused aromatic, heterocyclic and polycyclic ring structures and can be copolymerisable with a monomer e.g. styrene. R, R.sub.1, R.sub.2, R.sub.3 and R.sub.4 can also be unsaturated alkylene groups such as vinyl groups or groups --C--CH.sub.2.dbd.CH.sub.2--R where R is as above.

L101 ANSWER 2 OF 6 INSPEC (C) IET on STN
AN **2003:7811151** INSPEC DN B2004-01-2560R-090
TI **High performance organic thin film transistors**
AU Kelley, T.W.; Muyres, D.V.; Baude, P.F.; Smith, T.P.;
(Electron. & Inorganics Technol. Centers, 3M Co., St. Paul, MN, USA),
Jones, T.D.
SO Organic and Polymeric Materials and Devices. Symposium (Mater. Res. Soc. Symposium Proceedings Vol.771), **2003**, p. 169-79 of xiii+409 pp., 17 refs.
Editor(s): Blom, P.W.M.; Greenham, N.C.; Dimitrakopoulos, C.D.; Frisbie, C.D.
Published by: Mater. Res. Soc, Warrendale, PA, USA
Conference: Organic and Polymeric Materials and Devices. Symposium, San Francisco, CA, USA, **22-25 April 2003**
DT Conference; Conference Article
Full PDF of Conference Paper:
http://www.mrs.org/s_mrs/bin.asp?CID=2601&DID=66402&DOC=FILE.PDF
AB We report here methods of surface modification and device construction which consistently result in lab-scale pentacene-based TFTs with mobilities at or above 5 cm2/Vs. Surface modifications include polymeric ultrathin films presenting a passivated interface on which the semiconductor can grow. High performance TFTs have been fabricated on a variety of dielectric materials, both organic and inorganic, and are currently being implemented in manufacturable constructions. Our surface modifications have also proven useful for **substituted pentacene materials** and for a variety of other organic semiconductors. In addition, we report an all organic active layer, rf-powered integrated circuit. Further experiments and statistical analyses are underway to explain the elevated mobility in our samples, and efforts have been made to confirm these results through collaboration.

L49 ANSWER 8 OF 8 HCAPLUS COPYRIGHT ACS on STN
AN 1977:509886 HCAPLUS __<<LOGINID::20090908>>
DN 87:109886
OREF 87:17351a,17354a
TI The **crystal** and molecular structure of **dodecafluorotriphenylene, C18F12**
AU Hursthouse, M. B.; Smith, V. B.; Massey, A. G.
CS Dep. Chem., Queen Mary Coll., London, UK
SO Journal of Fluorine Chemistry (**1977**), 10(2), 145-56
CODEN: JFLCAR; ISSN: 0022-1139
DT Journal
LA English
CC 75-5 (Crystallization and Crystal Structure)
Section cross-reference(s): 26
AB The dodecafluorotriphenylene mol. is considerably distorted from planarity by steric interactions between the ortho F atoms which approach to within 2.41 Å of each other (or .apprx.0.3 Å closer than the sum of the van der Waals radii for 2 F atoms, 2.70 Å). The crystals are orthorhombic, space group Fdd2, with a 20.228(6), b 13.500(5), and c 10.927(5) Å; d.(exptl.) = 187 and d.(calculated) = 1.90 for Z = 8.
IT **Crystal** structure
Molecular structure
(of **dodecafluorotriphenylene**)
IT **17051-14-8**
RL: PRP (Properties)
(crystal structure of)
RN 17051-14-8 HCAPLUS
CN Triphenylene, 1,2,3,4,5,6,7,8,9,10,11,12-dodecafluoro- (CA INDEX NAME)



L49 ANSWER 2 OF 8 HCAPLUS COPYRIGHT ACS on STN
AN 2001:806627 HCAPLUS <<LOGINID::20090908>>
DN 136:216427
ED Entered STN: 06 Nov 2001
TI Arene-**perfluoroarene** interactions in **crystal** engineering. Part 3. Single-crystal structures of 1:1 complexes of octafluoronaphthalene with fused-ring polyaromatic hydrocarbons
AU Collings, Jonathan C.; Roscoe, Kari P.; Thomas, Rhodri Ll.; Batsanov, Andrei S.; Stimson, Lorna M.; Howard, Judith A. K.; Marder, Todd B.
CS Department of Chemistry, University of Durham, Durham, DH1 3LE, UK
SO New Journal of Chemistry (**2001**), 25(11), 1410-1417
CODEN: NJCHE5; ISSN: 1144-0546
PB Royal Society of Chemistry
DT Journal
LA English
CC 22-12 (Physical Organic Chemistry)
Section cross-reference(s): 68, 75
AB Mol. complexes of 1:1 stoichiometry of octafluoronaphthalene (OFN) with the polyarom. hydrocarbons anthracene, phenanthrene, pyrene and triphenylene were prepared, and their single-crystal x-ray structures determined at 120 K All of the structures are composed of infinite stacks of alternating, almost parallel mols. of OFN and the hydrocarbons, in contrast to the herringbone or γ-type (flattened herringbone) packing of the pure components. The stacking motif does not require a close correlation between the mol. geometry of the arene and perfluoroarene species, but is stable over a wide range of differing sizes and shapes. Thus, the arene-perfluoroarene interaction is of general importance as a supramol. synthon. The mol. geometries of the components are not affected by complexation, indicating the absence of charge transfer in the complexes. The role of close C-H···F-C and C-F···F-C intermol. contacts between stacks is discussed. A re-determination of the single-crystal structure of triphenylene at 150 K is also reported, providing a more accurate comparison with that of the 1:1 OFN triphenylene complex.
IT Complexation
Crystal structure
Disorder
Isomorphism
Melting point
Molecular orientation
Molecular recognition
Molecular structure
Polymorphism (**crystal**)
Stoichiometry
Supramolecular structure
(arene-**perfluoroarene** interactions in **crystal** engineering: single-**crystal** structures of 1:1 complexes of octafluoronaphthalene with fused-ring polyarom. hydrocarbons)

L49 ANSWER 4 OF 8 HCAPLUS COPYRIGHT ACS on STN
AN 1999:774712 HCAPLUS <<LOGINID::20090908>>
DN 132:173714
ED Entered STN: 08 Dec 1999
TI Control of single crystal structure and liquid **crystal** phase behaviour via arene-**perfluoroarene** interactions
AU Dai, Chaoyang; Nguyen, Paul; Marder, Todd B.; Marder, Todd B.; Scott, Andrew J.; Clegg, William; Viney, Christopher; Viney, Christopher
CS Department of Chemistry, University of Waterloo, Waterloo, ON, N2L 3G1, Can.
SO Chemical Communications (Cambridge) (**1999**), (24), 2493-2494
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 25
AB In contrast to the solid-state structures of the individual compds., arene-perfluoroarene face-to-face stacking and C-H...F-C in-plane interactions dominate the solid-state structure of 1:1 cocrystals of 1,4-bis(phenylethynyl)tetrafluorobenzene and 1,4-bis(pentafluorophenylethynyl)benzene, with this supramol. aggregation leading to the stabilization of a nematic liquid crystalline phase. The cocrystals are triclinic, space group P.hivin.1, with a 6.0932(7), b 7.5393(9), c 19.114(2) Å, α 96.044(3), β 99.102(3), γ 96.538(3)°; Z = 1, dc = 1.571; R = 0.0685 for 2918 reflections.
ST phenylethynylfluorobenzene fluorophenylethynylbenzene crystal structure nematic liq crystal; mol structure phenylethynylfluorobenzene fluorophenylethynylbenzene; arene **perfluoroarene** interaction **crystal** structure liq **crystal** behavior
IT Intermolecular force
(control of single crystal structure and liquid **crystal** phase behavior via arene-**perfluoroarene** interactions)
IT Supramolecular structure
(control of single crystal structure and liquid crystal phase behavior with supramol. aggregation via arene-perfluoroarene interactions)
IT Liquid crystals
(nematic; of bis(phenylethynyl)tetrafluorobenzene-bis(pentafluorophenylethynyl)benzene compound with arene-perfluoroarene interaction)
IT Crystal structure
Molecular structure
(of bis(phenylethynyl)tetrafluorobenzene-bis(pentafluorophenylethynyl)benzene **cocrystal** with arene-**perfluoroarene** interaction)
IT 258506-16-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(crystal structure and liquid **crystal** properties with arene-**perfluoroarene** interaction)

L49 ANSWER 5 OF 8 HCAPLUS COPYRIGHT ACS on STN
AN 1999:639819 HCAPLUS <<LOGINID::20090908>>
DN 131:358551
ED Entered STN: 08 Oct 1999
TI **Influence of perfluoroarene-arene interactions on the phase behavior of liquid crystalline and polymeric materials**
AU Weck, Marcus; Dunn, Alex R.; Matsumoto, Kozo; Coates, Geoffrey W.; Lobkovsky, Emil B.; Grubbs, Robert H.
CS Arnold and Mabel Beckman Laboratories of Chemical Synthesis Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA, 91125, USA
SO Angewandte Chemie, International Edition (**1999**), 38(18), 2741-2745
CODEN: ACIEF5; ISSN: 1433-7851
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 25, 36
AB The use of arene-perfluoroarene, in particular triphenylene-perfluorotriphenylene interactions, is introduced as a new supramol. synthon to influence the phase behavior in liquid crystals and polymeric materials. **Crystals** of a 1:1 perfluorotriphenylene-triphenylene mixture were grown and the structure determined by x-ray diffraction. Crystals are monoclinic, space group C2/c and show a stacked, columnar arrangement of perfluorotriphenylene-triphenylene. Possible supramol. 1:1 interactions between functionalized triphenylenes, in particular a chiral liquid crystal triphenylene (I) and a polymer incorporating triphenylenes in its side chain (II) and perfluorotriphenylene (III) were investigated. The 1:1 I-III complex enlarged the temperature range of the discotic hexagonal mesophase which was observed on cooling from the isotropic melt. While the polymer II displayed only a glass transition at 41° the 1:1 mixture of II and III showed a first-order endotherm (crystallization peak). No signals characteristic of the individual compds. were observed in the 1:1 mixture
IT Liquid crystals
(discotic; chiral liquid **crystal** triphenylene and its perfluorotriphenylene complex)
IT **Crystal** structure
(of perfluorotriphenylene-triphenylene complex)
IT Crystallization
(of polymer with triphenylene in its side chain-perfluorotriphenylene complex)

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L3               SEL PLU=ON  L2 1- RN :      10 TERMS
L4           154 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L3
L5             1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L2 AND L4

     FILE 'STNGUIDE' ENTERED AT 09:28:02 ON 08 SEP 2009

     FILE 'LREGISTRY' ENTERED AT 09:29:03 ON 08 SEP 2009
L6             0 SEA FILE=LREGISTRY SPE=ON  ABB=ON  PLU=ON  646533-87-1
L7             0 SEA FILE=LREGISTRY SPE=ON  ABB=ON  PLU=ON  646533-88-2

     FILE 'REGISTRY' ENTERED AT 09:29:28 ON 08 SEP 2009
L8             0 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  646533-87-1/CRN
L9             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  646533-88-2/CRN
L10            7 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "C18 F12"/MF
L11            4 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "C22 F14"/MF

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L15           34 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L14
L16           64 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L9 OR L10 OR L11)

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L19            3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?PERFLUOROACENE?
L20           62 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?PERFLUORO?(2A)?ACENE?
L21           29 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?PERFLUOROPENTACEN?
L22            7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?PERFLUOROTETRACEN?
L23            1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?TETRADECAFLUOROPENTACEN?
L24            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?TETRADECAFLUORO?(2A)?PENTACEN?
L25            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?DODECAFLUORO?(2A)?NAPHTHACEN?
L26            2 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?DODECAFLUORONAPHTHACEN?
L27            2 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?DODECAFLUORO?(1T)?NAPHTHACEN?
L28          119 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L13 OR L15 OR L16 OR
                 (L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27)
L29           57 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L28 AND 1980-2004/PY
L30           12 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L28 AND 1960-1979/PY
L31            1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L28 AND 1960-1979/PRY
L32           14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L28 AND 1980-2003/PRY
L33           71 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L29 OR L30 OR L31 OR L32)

     FILE 'LCA' ENTERED AT 09:50:17 ON 08 SEP 2009

     FILE 'HCAPLUS' ENTERED AT 09:51:33 ON 08 SEP 2009
L34            4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L33 AND (L9 OR L14)
L35            3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L33 AND L12
L36            5 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L34 OR L35)
                 D ALL HITSTR TOT

     FILE 'STNGUIDE' ENTERED AT 09:51:54 ON 08 SEP 2009

     FILE 'HCAPLUS' ENTERED AT 09:54:12 ON 08 SEP 2009
L37            3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L33 NOT L36) AND
                 (?TFT OR TFT####### OR ?TRANSISTOR? OR FET OR ?MOSFET? OR 257?/NCL OR H01L?/IPC,IC,ECLA)
                 D ALL HITSTR TOT
```

```
     FILE 'STNGUIDE' ENTERED AT 09:55:03 ON 08 SEP 2009

     FILE 'LCA' ENTERED AT 09:58:01 ON 08 SEP 2009
L38           33 SEA FILE=LCA SPE=ON  ABB=ON  PLU=ON  ?CRYST?(5A)?ACEN?
L39            1 SEA FILE=LCA SPE=ON  ABB=ON  PLU=ON  ?CRYST?(5A)(?PERFLUOR? OR
                 ?TETRADECAFLUOR? OR ?DODECAFLUOR?)

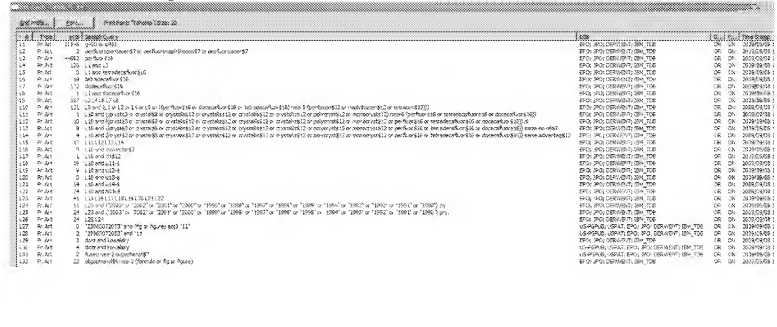
     FILE 'HCAPLUS' ENTERED AT 10:00:50 ON 08 SEP 2009
L40        10193 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?CRYST?(5A)?ACEN?
L41         1548 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?CRYST?(5A)(?PERFLUOR?
                  OR ?TETRADECAFLUOR? OR ?DODECAFLUOR?)
L42            1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?TETRADECAFLUOR?(1T)?ACEN?
L43            2 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ?DODECAFLUOR?(1T)?ACEN?
L44            5 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L33 AND L40
L45            8 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L33 AND L41
L46            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L33 AND L42
L47            1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L33 AND L43
L48           10 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L44 OR L45 OR L46 OR L47)
L49            8 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L48 NOT  (L36 OR L37)

                  D ALL HITSTR TOT

     FILE 'STNGUIDE' ENTERED AT 10:02:48 ON 08 SEP 2009

     FILE 'REGISTRY' ENTERED AT 10:42:23 ON 08 SEP 2009
L50            1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  646533-88-2
L51            1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  646533-87-1
L52            2 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (L50 OR L51)
```

EAST Search History:



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... Ruiz Delgado, † Youichi **Sakamoto**, ‡ Toshiyasu **Suzuki**, ‡ Víctor Hernández ...
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Theoretical study of **perfluorinated oligothiophenes**, electronic and structural properties
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... Copyright © 2004 Elsevier Ltd All rights reserved. Theoretical study of **perfluorinated oligothiophenes**, electronic and structural properties. ...
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Google scholar perfluorinated suzuki sakamoto mrs 2003 Search Advanced Scholar Search Scholar Preferences

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▶ ... in experimental valve disease with integrin-targeted nanoparticles and 19-fluorine MRI/**MRS**
EA Waters, J Chen, JS Allen, H Zhang, GM ... - Journal of Cardiovascular Magnetic Resonance, 2008 - pubmedcentral.nih.gov
... Furthermore, because 19 F spectroscopy of **fluorinated** nanoparticles is potentially ...
S0045-8177(03)00245-4. [PubMed] Kamimura R, **Suzuki** S, **Sakamoto** H, Miura N ...
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A Facchetti, MH Yoon, HE Katz, M Mushrush, ... - MATERIALS RESEARCH SOCIETY SYMPOSIUM ... , 2003 - mrs.org
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K Maex, MR Baklanov, D Shamiryan, SH ... - Journal of Applied Physics, 2003 - link.aip.org
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"amorphous carbon" (very often **fluorinated** and/or hydrogenated). ...
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... (in Japanese) A. Fujishima, A. **Sakamoto**, and K ... A. Fujishima, Y. Maeda, S. **Suzuki**,
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M Muller, S Asaftei, D Corr, M Ryan, L Walder - Advanced Materials, 2004 - interscience.wiley.com
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Page 373 CHAPTER 6 Nitrile Oxides Volker Jager Institut fur Organische
Chemie, Universitat Stuttgart, Stuttgart, Germany Pedro A ...
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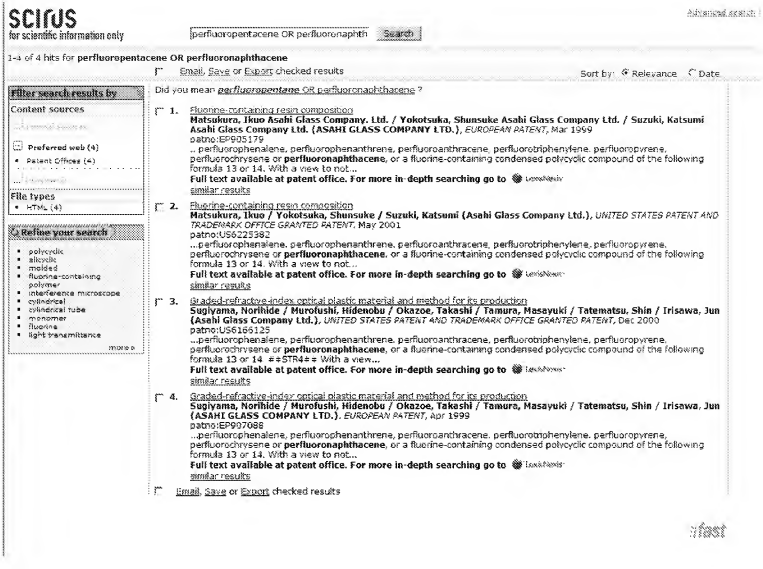
Date-Limited Search before 2004:



CAS/STN FILE 'HCAPLUS' ENTERED AT 07:52:58 ON 09 SEP 2009

```
L1          11 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  PERFLUOROPENTACEN?/TI
L2           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L1 AND 1970-2003/PY
L3           1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L1 AND P N/TI
L4             SEL PLU=ON  L3 1- RE :      24 TERMS
L5          5148 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L4
L6           784 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L5 AND 1980-2003/PY
L7            14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L5 AND 1980-2003/PRY
L8           793 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L6 OR L7)

     FILE 'REGISTRY' ENTERED AT 07:53:59 ON 09 SEP 2009
L9          7463 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  PERFLUOR?

     FILE 'HCAPLUS' ENTERED AT 07:54:19 ON 09 SEP 2009
L10           31 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND L9
L11          198 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND ?PENTACEN?
L12            4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND ?NAPHTHACEN?
L13           19 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND ?TETRACEN?
L14            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND DODECAFLUOR?
L15            1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND TETRADECAFLUOR?
L16           19 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND PERFLUOR?
L17            4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND C22?
L18            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L8 AND C18?
L19            7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L10 OR L16) AND (L11
                 OR L12 OR L13 OR L14 OR L15)
L20            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L10 OR L16) AND L17
                 D L19 BIB AB HITIND HITSTR 1-7

     FILE 'STNGUIDE' ENTERED AT 07:56:29 ON 09 SEP 2009

     FILE 'HCAPLUS' ENTERED AT 08:15:46 ON 09 SEP 2009
L21            7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ESSENTIAL ROLE/TI AND
                 ELECTRON TRANSFER/TI
                 D TI 1-7

     FILE 'STNGUIDE' ENTERED AT 08:15:56 ON 09 SEP 2009

     FILE 'HCAPLUS' ENTERED AT 08:16:24 ON 09 SEP 2009
L22            1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L21 AND ACENES/TI
L23              SEL PLU=ON  L22 1- RE :      96 TERMS
L24        50052 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L23
L25        20835 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L24 AND 1990-2003/PY,P
                 RY

     FILE 'STNGUIDE' ENTERED AT 08:16:48 ON 09 SEP 2009

     FILE 'HCAPLUS' ENTERED AT 08:17:27 ON 09 SEP 2009

     FILE 'HCAPLUS' ENTERED AT 08:17:33 ON 09 SEP 2009
L26         2146 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND CRYSTAL?(2A)(?
                 STRUCTUR? OR ?MORPHOL? OR ?ORDER?)
L27           19 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND RECRYST?
L28            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND RE CRYST######
                 ####
L29           55 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND CRYSTN?
L30           33 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND CRYSTD?
L31            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND CRYSTALIS?
L32            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND CRYSTALIZ?
L33          217 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND CRYSTALLIZ?
L34            0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND CRYSTALLIS?
L35            3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND MONOCRYST?
L36          106 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 AND POLYCRYST?
```

```
L37          11 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L26 OR L27 OR L28 OR
                L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36) AND
                ?ACENE?(2A)?CRYST?
L38           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L9 AND L37
L39           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND PERFLUOR?
L40           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND C22?
L41           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND C18?
L42           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND ?PENTACEN?
L43           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND ?NAPHTHACEN?
L44           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND ?TETRACEN?
L45           4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L26 OR L27 OR L28 OR
                L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36) AND
                ?TRANSISTOR?
L46           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L26 OR L27 OR L28 OR
                L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36) AND
                TFT######
L47           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L26 OR L27 OR L28 OR
                L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36) AND
                ?MOSFET?
L48           2 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L26 OR L27 OR L28 OR
                L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36) AND FET
L49           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L26 OR L27 OR L28 OR
                L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36) AND
                257?/NCL
L50           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L26 OR L27 OR L28 OR
                L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36) AND
                438?/NCL
L51           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L26 OR L27 OR L28 OR
                L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36) AND
                H01L?/IPC,IC,ECLA
L52          15 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L37 OR L38 OR L39 OR
                L40 OR L41 OR L42 OR L43 OR L44 OR L45 OR L46 OR L47 OR L48 OR
                L49 OR L50 OR L51)

     FILE 'REGISTRY' ENTERED AT 08:22:05 ON 09 SEP 2009
L53       33268 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  NAPHTHACEN?
L54        4070 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  PENTACEN?
L55         229 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  TETRACEN?

     FILE 'LCA' ENTERED AT 08:22:31 ON 09 SEP 2009

     FILE 'HCAPLUS' ENTERED AT 08:22:51 ON 09 SEP 2009
L56           8 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L52 AND (L53 OR L54
                OR L55)
L57          15 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L52 OR L56
                D BIB AB HITIND HITSTR TOT

     FILE 'STNGUIDE' ENTERED AT 08:23:32 ON 09 SEP 2009

     FILE 'LCA' ENTERED AT 08:28:03 ON 09 SEP 2009

     FILE 'INSPEC, HCAPLUS' ENTERED AT 08:28:46 ON 09 SEP 2009
L58          87 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  BAUDE P?/AU
L59         543 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  HAASE M?/AU
L60         154 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  THEISS S?/AU
L61          19 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L58 AND L59 AND L60
L62          50 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L58 AND L59
L63          20 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L58 AND L60
L64          19 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L59 AND L60
L65          38 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND TFT#######
L66          54 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?TRANSISTOR?
L67           2 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?MOSFET?
```

```
L68           2 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND FET
L69           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND OFET
L70           2 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND
                ORGANIC(5A) GATE##
L71           6 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND L9
L72          11 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND
                (L53 OR L54 OR L55)
L73           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND PERFLUOR?
L74           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND DODECAFLUOR?
L75           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND TETRADECAFLUOR?
L76           1 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?TETRACEN?
L77           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?NAPHTHACEN?
L78          13 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?PENTACEN?
L79           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?CRYSTALI?
L80          79 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?CRYSTALLI?
L81         173 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?CRYSTAL?
L82           2 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?CRYSTD?
L83           4 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L58 OR L59 OR L60) AND ?CRYSTN?
L84         252 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L61 OR L62 OR L63 OR L64
                OR L65 OR L66 OR L67 OR L68 OR L69 OR L70 OR L71 OR L72 OR L73
                OR L74 OR L75 OR L76 OR L77 OR L78 OR L79 OR L80 OR L81 OR L82 OR L83)
L85         148 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L84 AND 1995-2003/PY
L86         126 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L85 NOT P/DT
L87          84 DUP REM L86 (42 DUPLICATES REMOVED)
L88           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND (C22#### OR C18#####)
L89           3 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND (PERFLUOR? OR FLUORIN?)
L90           1 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND L9
L91           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND F(5A) SUBSTITUT#########
L92           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND F(5A) SUBSTITUENT########
L93           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND F(5A) GROUP
L94           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND F(5A) FUNCTIONAL?
L95           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND F/TI
L96           0 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L87 AND F/CHI
L97           4 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L88 OR L89 OR L90 OR L91
                OR L92 OR L93 OR L94 OR L95 OR L96)
                D ALL HITSTR TOT

     FILE 'STNGUIDE' ENTERED AT 08:35:04 ON 09 SEP 2009

     FILE 'INSPEC, HCAPLUS' ENTERED AT 08:36:33 ON 09 SEP 2009
L98           4 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  (L87 NOT L97) AND
                SEMICONDUCT########(7A)(ORG OR ORGANIC)
                D ALL HITSTR TOT

     FILE 'STNGUIDE' ENTERED AT 08:37:21 ON 09 SEP 2009

     FILE 'LCA' ENTERED AT 08:38:58 ON 09 SEP 2009
L102          0 SEA FILE=LCA SPE=ON  ABB=ON  PLU=ON  (ORGANIC OR ORG)(7A)(TRANSISTOR? OR TFT?)

     FILE 'HCAPLUS' ENTERED AT 08:39:36 ON 09 SEP 2009
L103       8622 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (ORGANIC OR ORG)(7A)
                (TRANSISTOR? OR TFT?)
L104         25 SEA FILE=HCAPLUS L87
L105          1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L104 AND L103
L106          1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L105 NOT L97
                D ALL HITSTR
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